

## § 173.461

(3) The total nuclear criticality control transport index does not exceed 100 for all packages in the shipment; and

(4) Except as provided in §176.704(e) of this subchapter, the shipment is not transported by vessel.

(c) A fissile material, controlled shipment of packages may be combined with other packages of the same or different design when each package has been assigned a nuclear criticality control transport index in accordance with 10 CFR 71.59, and may be combined with other fissile packages into a fissile material, controlled shipment under the conditions prescribed in §173.457, if:

(1) The nuclear criticality control transport index which has been assigned in the package approval does not exceed 50 for any single package;

(2) The total nuclear criticality control transport index for all packages in the shipment does not exceed 100; and

(3) Except as provided in §176.704(e) of this subchapter, the shipment is not transported by vessel.

[Amdt. 173-244, 60 FR 50307, Sept. 28, 1995, as amended at 66 FR 45380, Aug. 28, 2001]

### § 173.461 Demonstration of compliance with tests.

(a) Compliance with the design requirements in §173.412 and the test requirements in §§173.465 through 173.469 must be shown by any of the methods prescribed in this paragraph, or by a combination of these methods appropriate for the particular feature being evaluated:

(1) Performance of tests with prototypes or samples of the specimens representing LSA-III, special form Class 7 (radioactive) material, or packaging, in which case the contents of the packaging for the test must simulate as closely as practicable the expected range of physical properties of the radioactive contents or packaging to be tested, must be prepared as normally presented for transport. The use of non-radioactive substitute contents is encouraged provided that the results of the testing take into account the radioactive characteristics of the contents for which the package is being tested;

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(2) Reference to a previous, satisfactory demonstration of compliance of a sufficiently similar nature;

(3) Performance of tests with models of appropriate scale incorporating those features that are significant with respect to the item under investigation, when engineering experience has shown results of those tests to be suitable for design purposes. When a scale model is used, the need for adjusting certain test parameters, such as the penetrator diameter or the compressive load, must be taken into account; or

(4) Calculations or reasoned evaluation, using reliable and conservative procedures and parameters.

(b) With respect to the initial conditions for the tests under §§173.465 through 173.469, except for the water immersion tests, compliance must be based upon the assumption that the package is in equilibrium at an ambient temperature of 38 °C (100 °F).

[Amdt. 173-244, 60 FR 50307, Sept. 28, 1995, as amended by 63 FR 52850, Oct. 1, 1998]

### § 173.462 Preparation of specimens for testing.

(a) Each specimen (i.e., sample, prototype or scale model) must be examined before testing to identify and record faults or damage, including:

(1) Divergence from the specifications or drawings;

(2) Defects in construction;

(3) Corrosion or other deterioration; and

(4) Distortion of features.

(b) Any deviation found under paragraph (a) of this section from the specified design must be corrected or appropriately taken into account in the subsequent evaluation.

(c) The containment system of the packaging must be clearly specified.

(d) The external features of the specimen must be clearly identified so that reference may be made to any part of it.

### § 173.465 Type A packaging tests.

(a) The packaging, with contents, must be capable of withstanding the water spray, free drop, stacking and penetration tests prescribed in this section. One prototype may be used for all